

## INFORMATION SHEET

### **WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2010-XXXX FOR H.M. HOLLOWAY, INC. H.M. HOLLOWAY SURFACE MINE LANDFILL PROJECT KERN COUNTY**

H.M. Holloway, Inc. (hereafter Discharger) owns and operates an open-pit gypsum mine located on Holloway Road in Lost Hills. The 301-acre mining facility (facility) contains four depleted mine pit areas, covering 172 acres, that have been designated for waste disposal. The depleted gypsum mine pits are reclaimed by discharging up to 2,000 tons per day of industrial waste consisting of ash, lime cake, treated automobile shredder waste (predominately nonmetallic, solid material including plastic, broken glass, rubber, foam, soil, and fabric), concrete and cement construction rubble, asphalt products (e.g., roofing shingles, reclaimed road surface materials, etc.), and shredded automobile tires.

The Central Valley Water Board adopted Order 97-078, in which the facility was designated as an unclassified waste disposal site for the discharge of specific industrial wastes pursuant to Title 23, California Code of Regulations, Section 2510 et seq. (Chapter 15). The proposed Order revises the existing Waste Discharge Requirements to classify the depleted mine pits as Class III landfills pursuant to Title 27, California Code of Regulations, Section 20005 et seq. (Title 27), and revises the list of wastes allowed for discharge to include spent sandblast media and dewatered Class A and Class B municipal biosolids; and to exclude sulfur, shredded plastic, concrete and cement construction rubble, asphalt products, shredded automobile tires and drilling mud.

The climate in the southern San Joaquin Valley is semi-arid, with hot, dry summers and cool winters. The average annual precipitation is 5.95 inches with an annual evaporation rate of 67.59 inches. The facility is not within a 100-year flood zone according to FEMA maps.

The soils underlying the facility consist of a thick sequence (maximum depth of investigation 50 feet beneath the mine pits) of consolidated soils dominated by silts and low-to-medium plasticity clays. Between 15 and 50% montmorillinite clay was identified by X-ray diffraction in soil samples collected from the upper 25 feet of soil beneath Pit E. The hydraulic conductivity of the soils underlying the Units ranges between  $1 \times 10^{-7}$  and  $1 \times 10^{-10}$  centimeters per second. The site is not within a known fault hazard zone.

The first encountered groundwater occurs in thin, laterally discontinuous and vertically stratified sand lenses found at depths ranging between 60 and 120 feet below the ground surface, or between 20 and 38 feet below the base of the Units. Groundwater elevations range from 323 feet mean sea level (MSL) to 348 feet MSL. The groundwater is unconfined. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 5,300 and 10,500 micromhos/cm, and concentrations of total dissolved solids (TDS) ranging from 4,900 to 7,460 milligrams per liter (mg/l) with an average concentration of 6,015 mg/l. The recommended secondary maximum contaminant level (MCL) of TDS for drinking water is 500 mg/l. The first encountered groundwater exceeds the primary MCL for drinking water for selenium and nitrate. Selenium ranged from 57 to 219 micrograms per liter ( $\mu\text{g/l}$ ) and nitrate as nitrate ranged from 14 to 598 mg/l.

Secondary drinking water standards were also exceeded for manganese, chloride, and sulfate. Additionally, first encountered groundwater exceeds several agricultural water quality limits, including those for chloride, molybdenum, selenium, EC, and TDS.

The groundwater detection monitoring system, initiated in October 1995, consists of 12 monitoring wells. The Discharger's detection monitoring program for groundwater satisfies the requirements contained in Title 27. Groundwater monitoring to date has not detected the release of any waste constituents. The Discharger was not required by Chapter 15 to conduct unsaturated zone monitoring since the Units were unclassified. The proposed order requires unsaturated zone monitoring with a pan lysimeter installed beneath the leachate collection sumps of the leachate collection and removal system. If leachate is produced, which is unlikely, it will collect in the leachate collection sumps until a sufficient depth of leachate is attained to operate the collection pumps efficiently. Beneath the collection sumps is, therefore, the most likely location that leachate could migrate to the surrounding geologic materials.

The Discharger demonstrated that site characteristics alone, without a liner, meet the performance goal contained in Section 20310 of Title 27. The demonstration utilized a mathematical model to predict fate and transport of waste constituents discharged to the Units. Results of the model and past performance of the existing Units demonstrate that the proposed Unit design will ensure no impairment of beneficial uses of surface water or groundwater beneath or adjacent to the landfill in accordance with Section 20260(b)(1) of Title 27.

The waste containment system consists of, from the bottom up: naturally occurring geologic materials prepared and conditioned to prevent the migration of waste constituents to groundwater and to convey leachate to the leachate collection sump; a leachate collection and removal system drainage layer consisting of either appropriate selected geologic materials or a geonet/geocushion; and an operations layer to designed to protect the leachate collection and removal system.

The County of Kern, Board of Supervisors, certified the final environmental impact report on 1 April 2008. The County of Kern filed a Notice of Determination on 14 April 2008 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and CEQA guidelines (14 CCR Section 15000 et seq.). The Central Valley Water Board staff considered the environmental impact report and incorporated mitigation measures from the environmental impact report into the proposed Order designed to prevent potentially significant impacts to design facilities and to water quality.

This order requires full containment of wastes and does not permit degradation of surface water or groundwater. Further antidegradation analysis is therefore not needed. The discharge is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16.